

**BACKGROUND:** Previous findings regarding the effect of depression treatment and its consequences on health related quality of life (HRQoL) of adults with diabetes were inconsistent and targeted certain groups of population. Therefore, there is a critical need to perform a study that focuses on a general population with diabetes and depression. **OBJECTIVES:** The primary aim of this study is to examine the physical and mental HRQoL associated with depression treatment. **METHODS:** We adopted a longitudinal design using multiple panels (2005-2011) of Medical Expenditure Panel Survey to create one year of baseline and one year of follow-up. We categorized baseline depression treatment into no depression treatment, antidepressant use only and psychotherapy with or without antidepressants. We used perceived physical and mental health status during the follow-up year as measurements of HRQoL. Chi-square tests and multinomial logistic regressions were used to examine the association between depression treatment categories and HRQoL measures. In the adjusted analysis, we controlled for socio-demographic factors, lifestyle risk factors, other chronic conditions, and the baseline HRQoL measures. **RESULTS:** A significant association was observed between depression treatment and physical HRQoL measure in both unadjusted and adjusted models. Among adults who received psychotherapy (with or without antidepressants) 17.7% reported excellent/very good physical HRQoL while only 9.3% of those without depression treatment did so. In adjusted analyses, adults who received psychotherapy (with or without antidepressants) were more likely to report excellent/very good health compared to those without depression treatment [adjusted OR = 2.32, 95% CI = 1.01, 5.34]. For mental HRQoL, no significant differences were observed between treatment groups in the adjusted model. **CONCLUSIONS:** Depression treatment, especially psychotherapy (with or without antidepressants) may improve physical HRQoL.

#### DIABETES/ENDOCRINE DISORDERS – Health Care Use & Policy Studies

##### PDB87

#### PATIENT BENEFIT-RISK PREFERENCE OF INSULIN TREATMENT: AN EXAMINATION OF HEALTH LITERACY- AND BELIEFS AS PREDICTORS OF PREFERENCE AND RISK AVERSION

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**OBJECTIVES:** The aim of this study was to determine patient benefit-risk preference of insulin treatment, and to examine how preference is predicted by health literacy, sociodemographic status and patients own health risk perception. As a secondary objective we investigated whether elicited preferences were sensitive to the presentation of benefits as either a surrogate or clinical health outcome. **METHODS:** This was a questionnaire based study involving Danish type 2 diabetes patients recruited through a diabetes registry. Laboratory- and clinical data on diabetes management status was obtained from the registry. The questionnaire included a section on diabetes management, health literacy, demographics and a discrete choice experiment (DCE). In the DCE, respondents were asked to choose between two unlabelled insulin treatments. These were defined by improvements in glucose control (HbA1c or long-term sequelae risk reduction), weight control, hypoglycemic events (severe/minor) and treatment-related heart attack risk. A Bayesian efficient design (Ngene v 1.1.1) was used to construct the choice tasks. Logistic regression analysis was used to describe the data relationships. Regression coefficients derived from this model were used to estimate maximum acceptable risk (MAR) of treatment in return of benefit. **RESULTS:** One thousand and thirty-three patients completed the questionnaire. Overall, the avoidance of a minor increase in heart-attack risk (3 additional people of 1000) was driving choice of treatment across all versions of the DCE. This was followed by avoiding severe hypoglycemic events. We observe some differences in preference estimates across the DCE versions indicating that patients are sensitive to the presentation of benefit as long-term sequelae risk reduction rather than a surrogate measure of health improvement (HbA1c). Detailed results on subgroup analysis and predictors of preference are presented at the conference. **CONCLUSIONS:** Risk-aversion of heart attack, although it is a minor additional risk, influence patient choice of treatment. Final conclusion is presented at the conference.

##### PDB88

#### PRESCRIBING PATTERN, GUIDELINE ADHERENCE AND DIABETES MELLITUS MANAGEMENT WITH CO-MORBIDITIES: A MALAYSIAN HOSPITAL PERSPECTIVE

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**OBJECTIVES:** To evaluate the prescription pattern, adherence of prescribers with Clinical Practice Guideline 2009 and management of diabetes mellitus (DM) with co-morbidities in a tertiary-care hospital, Pinang General Hospital Malaysia. **METHODS:** Cross-sectional study was performed on a total 51 prescribers and 1020 patients' prescriptions written by the same prescribers (20 prescriptions for each prescriber). All 1020 DM patients were suffered with other co-morbidities. All of the prescriptions were divided into two different groups i.e. adherent and non-adherent prescriptions. Self-administered research tools were used and demographic characteristics of the patients were determined by descriptive statistics. Data was analyzed by using SPSS 21.0. Comparison between adherent and non-adherent groups was done by inferential statistics. **RESULTS:** In all prescriptions, overall good level of physician adherence was seen with respect to the recommendations of CPG 2009. A statistically significant negative association ( $\Phi = 0.094$ ,  $p$ -value=0.003) was observed between DM management and co-morbidities. CPG adherent had shown statistically weak negative association ( $\Phi = -0.081$ ,  $p$ -value=0.010) with patients having

co-morbidities. No statistically significant association was observed between CPG 2009 adherence and co-morbidities. **CONCLUSIONS:** The study explored the various aspects of prescribing pattern of physicians, their adherence to the CPG 2009 and the management of DM with other co-morbidities. This study also recognized the need for improvement in prescribers' pattern of prescription and DM management with co-morbidities.

##### PDB89

#### A MULTIVARIATE ANALYSIS OF PRESCRIBING INFORMATION FOR NEXT GENERATION TYPE 2 DIABETES TREATMENTS

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**OBJECTIVES:** To compare the pivotal clinical endpoints on the prescribing information labels of next generation treatments for type 2 diabetes (T2D) and to identify the most clinically-relevant antidiabetic outcomes. This multivariate analysis was designed to identify the appropriate treatment paradigm for the management of patients with T2D, based on symptomatology and relative efficacy. **METHODS:** A multivariate analysis of clinical efficacy endpoints from product information labels of 10 recently approved next generation treatments for adult T2D was undertaken, with 26-week, placebo-controlled endpoint data for utilized all compounds, including change from baseline in hemoglobin A1c (%), body weight (kg), fasting plasma glucose (mg/dL), post-prandial plasma glucose (mg/dL), and the incidence of hypoglycemic events (%). Clinical relevance for this analysis was defined as 1% reduction in HbA1c, 5kg reduction in mean body weight from baseline, and an incidence of hypoglycemia <1%. Data with metformin in combination therapy was included where available, based on current therapeutic guidelines. **RESULTS:** The multivariate analysis highlighted that no single compound met the predefined hypothesis of clinical relevance after 26-weeks of treatment. Canagliflozin 300mg / metformin (-1.06%) and liraglutide (-1.00%) reported the greatest reduction in HbA1c. Canagliflozin 300mg / metformin (-4.07kg) and dapagliflozin 10mg / metformin (-2.86kg) had the greatest mean reduction in body weight from baseline. Liraglutin 5mg / metformin (0.60%) and dapagliflozin 10mg / metformin (1.10%) had the lowest incidence of hypoglycemia. **CONCLUSIONS:** Physicians should consider all clinically-relevant outcomes of available T2D therapies with individual patient needs before initiating treatment. Clinicians must be aware of the various clinical outcomes for available therapies to ensure a safe and effective treatment regimen based on the symptomatic profile of individual patients. A triple-goal targeted approach to the management of T2D may reduce healthcare costs and treatment augmentation while improving quality of life for patients.

##### PDB90

#### MEDICATION UTILIZATION PATTERN FOR PAIN MANAGEMENT AMONG INDIVIDUALS WITH TYPE 2 DIABETES

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**OBJECTIVES:** Various medications are commonly used to treat pain among individuals with type 2 diabetes mellitus (T2DM). This study examined the drug utilization trends and factors associated with the use of pain medications among patients diagnosed with T2DM. **METHODS:** Data from the National Ambulatory Care Survey (NAMCS) 2006-2010 and the outpatient department component of the National Hospital Ambulatory Medical Care Survey (NHAMCS) were used to examine diabetes-related ambulatory visits among patients with T2DM. Bivariate chi-square analysis and multiple logistic regression were performed to evaluate the factors associated with prescribing of pain medications (e.g., anticonvulsants, antidepressants, opioids and some topical agents). SAS survey procedures that adjust for the complex sampling procedure of NAMCS and NHAMCS were used. **RESULTS:** An average of 50 million (4.63%) visits was made by patients with T2DM from 2006 to 2010. The majority of visits were made by females (54.84%), Whites (69.80%) and individuals aged 45-64 years (47.66%). Among patients with T2DM, 9.70% were prescribed pain management drugs. The most commonly prescribed pain management drugs were anticonvulsants (4.51%), antidepressants (2.80%) and opioids (2.30%). Multiple logistic regression analysis showed that females (OR: 1.48; 95% CI: 1.19-1.82), number of physician visits greater than 1 (OR: 1.39; 95% CI: 1.32-1.46), having private insurance (OR: 0.67; 95% CI: 0.49-0.90), and endocrinologist visit (OR: 0.68; 95% CI: 0.51-0.89) are significant predictors of pain medication use among T2DM patients. **CONCLUSIONS:** Patients with T2DM were prescribed anticonvulsants two times more often as compared to opioids for pain management. Dispensed prescriptions for pain medications were related to gender and number of physician visits. More frequent pain management related visits from patients over age 65 was consistent with the literature. Endocrinologist are less likely to prescribe medication for pain management than general medicine specialists.

##### PDB91

#### COMPARATIVE PERSISTENCY WITH NEWER AGENTS USED TO TREAT TYPE 2 DIABETES (T2DM) IN THE UNITED STATES: CANAGLIFLOZIN VERSUS DIPEPTIDYL PEPTIDASE-4 (DPP-4) INHIBITORS AND GLUCAGON-LIKE PEPTIDE-1 (GLP-1) AGONISTS

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**OBJECTIVES:** To compare time to discontinuation with canagliflozin versus DPP-4 inhibitors and GLP-1 agonists in patients with T2DM using retrospective claims data. **METHODS:** Patients with T2DM who received a first prescription for a DPP-4 inhibitor (sitagliptin, saxagliptin, linagliptin), GLP-1 agonist (liraglutide, exenatide, exenatide long-acting), or an agent that inhibits SGLT2 (canagliflozin) in 2013 were extracted from two US claims databases of commercially insured patients (Truven, Optum). The analytical sample included only patients with ≥6 months of retrospective data prior to their first paid claim. Discontinuation was defined as an observed refill gap ≥90 days (sensitivity analysis for 30/60 days) between